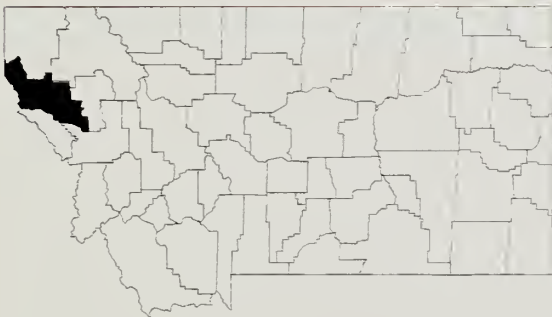


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

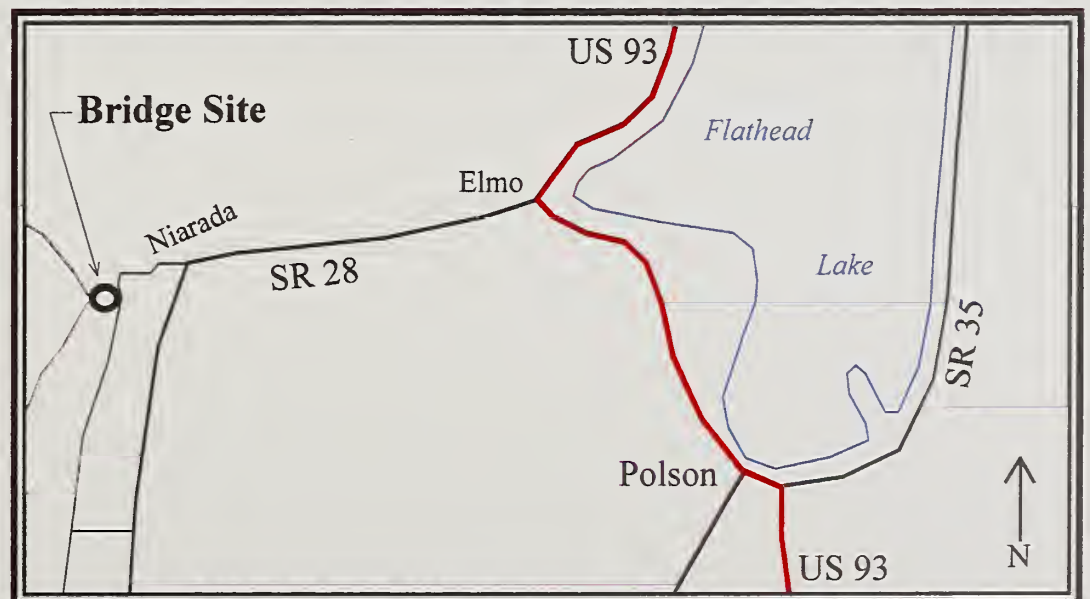
LITTLE BITTERROOT RIVER TIMBER BRIDGE, Sanders County, Montana

aTG365
.L57
1999



Type: Stress-laminated sawn lumber deck
County: Sanders County
Owner: Sanders County, Montana
Engineer: Merv Eriksson
Spans over: Little Bitterroot River
Bridge length: 24'-0"
Roadway width: 24'-0"

Directions: From Elmo and the intersection of US 93 and SR 28, travel southwest on SR 28. Turn right onto County Road L0023 at Niarada. Travel two miles southwest before turning right onto L45163. The bridge site is 1/4 mile.



USDA Forest Service

The National Wood In
Transportation Program





GEOMETRY

1022590472

Number of Spans: 1
Out-to-out length: 24'-0"
Center-of-bearing length: 23'-0"
Skew: 0 degrees
Number of lanes: 2
Out-to-out width: 26'-0"
Curb-to-curb width: 24'-0"
Superstructure square footage: 624

Design load: AASHTO HS-20
Dead load: 65 lbs/sq ft
Design by: Merv Eriksson, USDA Forest Service
Abutment type: Treated timber retaining wall
with timber anchors and steel tie rods
Abutment height (bottom of footing to top
of deck): 11'-4"

Total project cost: \$54,000
Total superstructure cost: \$28,500
Total superstructure cost /sq ft: \$45.67

MATERIAL

DECK

Material: Wood
Species: Coastal Douglas-fir
Allowable bending stress: 1505 psi
Sizes used: 2" x 12" x 24'-0" (laminations)
Quantity: 7,488 bf
Preservative treatment: Copper naphthenate (2%
copper)
Prestressing: 1" diameter Dywidag bars
Bearing plates: 11" x 16 1/2" x 1" A36
galvanized steel
Anchorage plates: 4" x 6 1/2" x 1 1/4"

BEAMS/STRINGERS (none)**GUIDERAIL POSTS (none)****CURBS**

Material: Wood
Species: Coastal Douglas-fir
Sizes used: 8" x 12" x 24'-0"
with 10" x 12" x 2'-4" scupper blocks

ABUTMENTS

Material: Wood
Species: Coastal Douglas-fir & Ponderosa
pine (Posts, sills, caps, and braces are
Coast Douglas-fir, No. 1 or better. All
remaining lumber is Ponderosa pine, No. 2.)
Preservative treatment: Copper naphthenate (2% copper)
Hardware & structural steel: A36, bolts &
nuts: A307 (uncoated)

LOCAL IMPACT: This bridge carries Sanders County Road L45163 across the Little Bitterroot River on the Flathead Indian Reservation. The bridge is used by school buses, delivery vehicles, logging trucks, cattle trucks, and agricultural equipment.

BRIDGE PERFORMANCE: This two lane, stress-laminated timber bridge replaced an undersized culvert. The treated timber abutments were constructed in place while the stress-laminated superstructure was fabricated on the adjacent roadway and lifted into place with a small crane.

FUNDING SOURCES: USDA Forest Service \$27,000; Balance of funding from Sanders County, Montana.

LOCAL CONTACT: Merv Eriksson
USDA Forest Service
1800 Strand Street
Missoula, MT 59801
Phone: 406-329-3147
Fax: 406-329-3384

Information provided by Merv Eriksson, Structural Engineer, USDA Forest Service.

WIT Program Proposal Number: R01-02-89 Federal Grant Identifier: R01-02-89